TABLE 1-continued

Ratio of Components I and II	Density, g/cm^3	Refractive index	Light transmission factor, %	Ultimate tensile strength, MPa	Percentage elongation
100:3	1.13	1.480	98.5	2.5	130
		Example 3			
100:10	1.05	1.430	98.0	3.0	200

The material according to the invention can also be made as a thin film or sheeting of any arbitrary thickness and is applied to good advantage, e.g., for substitution of an injured portion of the iris. Whenever it is desirable to attain a cosmetic effect, some organic dyes or inorganic pigments can be added to the material to give a required tint thereto.

When the material according to the invention is used for making lenticuli, the prepared liquid mixture is cast into a mould, whose geometric parameters, alongside with the refractive index of the material, defines the dioptry of the lenticulus being produced and the dimensions of its optical portion. The supporting portion of the lenticulus is shaped in this case as, e.g., a thin film.

Lenticuli made from the material according to the invention, exhibit twice as high optical resolution as compared with those made from polymethylmethacrylate and feature higher light transmission factor. Adequate elasticity of the material enables one to implant the lenticuli in the eye in a folded state, which makes it possible to considerably reduce (from 8 mm to 3 mm) the size of the operative wound. All this reduces much the number of the intra- and postoperative complications and cuts down radically the duration of the postoperative period.

Better processability of the material according to the invention resides in that preconditioning of the original stock, its polymerization and moulding, e.g., a lenticulus are as a whole an integral and continuous production process. The process incorporates also hot sterilization of the material, whereby the products from the material can be applied immediately after their production in the operating room. It is also worth noting that the hot sterilization of the material is in fact the simplest, safest and most reliable one.

Studies into toxicological properties of the material according to the invention in experiments on test animals have demonstrated that only the material in question is characterized by a nonreactive coursing of the postoperative period, which makes it possible to cut down the reahabilitation period of the prosthetophakial patients. Histological examinations show a minimized traumatic effect that might be inflicted upon the intraocular structures.

Clinical approvement of the lenticulus made from the material according to the invention has been carried out in more than 200 patients of the various age groups. The implanted lenticulus exhibits its indifference to the biological tissues from the first day after surgery. The postoperative inflammatory symptoms are much less pronounced compared with implantation of conventional polymethylmethacrylate lenticuli. The light-refracting ocular media restore their transparency three times as fast. Clinical reflecting microscopy of the corneal endothelium carried out before and within different follow-up periods, has demonstrated a lower traumatic effect of the material involved. Acuity of vision in all the patients operated upon is stable, being within 0.8 and 1.0 in a majority of the patients.

Implantation of a lenticulus made from the material of the invention is performed as follows. A 4 to 5 mm incision is carried out under local anethesia from 11 to 13 o'clock of the dial. The anterior capsule is slit open horizontally, or in the form of a triangale with its vertex facing 12 o'clock. The nucleus and the lenticular mass are removed typically of, e.g., extracapsular cataract extraction. Then the lenticulus held in a fenestrated forceps is inserted, under the control of a spatula, between the capsular leaflets in the lower segment. Next the forceps and spatula are removed, whereupon the upper pole of the lenticulus is fitted between the capsular leaflets in the upper segment, using a broad spatula and the iris tenaculum. Thereupon the anterior chamber is restored, hermetically sealing sutures are placed and a monocular patch is applied. As a result of surgery the lentoculus is fixed in the equatorial zone of the lens capsule, while its optical portion is fixed strictly with respect to the eye optical axis.

Given below are some clinical case histories as examples.

Female patient Ch., 44, was operated upon her left eye, i.e., extracapsular extraction of a complicated cataract followed by implantation of a 19.0^D lenticulus. Surgery uneventful. A nonreactive postoperative coursing was observed from the first day after surgery. The operated eye was quiet, the light-refracting media transparent. Acuity of vision before and after surgery, 0.16 and 1.0, respectively. Follow-up observations of the patient within one year demonstrated stability of the visual functions, normal hemo- and hydrodynamic ocular indices. Special examinations (endothelial microscopy and fluorescent iridoangiography) demonstrated normal conditions and good stable functions of the intraocular structures. The lenticulus was found to assume the correct and stable position with respect to the eye optical axis.

Female patient A., 34, was operated upon for phakoemulsification of a traumatic cataract, excision of the posterior capsule, and implantation of a 20.0^D lenticulus. Surgery uneventful. The postoperative period practically nonreactive. Visual acuity before surgery-motion of patient's hand before her face, after surgery, 1.0. Follow-up observations within a two-year period demonstrated complete stabilization of the visual functions and good conditions of the intraocular structures. The implanted lenticulus in a correct position, stably centred with respect to the eye optical axis.

What we claim is:

1. A lens or other optical prosthetic device comprising a cured composition resulting from vulcanization of a mixture of α,ω-bis-trivinylsiloxyoligodimethyl(methylphenyl)-siloxane and α-ω-bis-trimethyl(dimethylhydro)siloxyoligomethyl(phenyl)methylhydro-siloxane in the presence of a polyaddition reaction catalyst based on the compounds of metals of the platinum group, the ratio of the first mixture component to the second one ranging within 100:1 and 100:20 parts by mass.

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